This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims: Please amend the claims as follows:

Claim 1. (Currently Amended) A method for stimulating and/or inducing the differentiation of insulin producing cells from progenitor cells comprising contacting said progenitor cells with a neurturin product ~~or a modulator thereof or an effector thereof~~.

Claim 2. (Previously Presented) The method according to claim 1, wherein the progenitor cells are stem cells.

Claim 3. (Previously Presented) The method according to claim 1, wherein the stem cells are embryonic or somatic stem cells.

Claim 4. (Currently Amended) The method according to Claim 1, wherein the stem cells are of mammalian origin, with the proviso that ~~the use of~~ human embryos ~~is~~ are excluded.

Claim 5. (Previously Presented) The method according to Claim 1, wherein the progenitor cells have been transfected with a pancreatic gene.

Claim 6. (Currently Amended) A method for promoting protection, survival and/or regeneration of insulin producing cells comprising contacting said insulin producing cells with a neurturin product ~~or a modulator thereof or an effector thereof~~.

Claim 7. (Previously Presented) The method according to claim 6, wherein the insulin producing cells are beta-cells.

Claim 8. (Previously Presented) The method according to claim 6, wherein the insulin producing cells are of mammalian origin.

Claim 9. (Previously Presented) The method according to Claim 6, wherein the insulin producing cells have been transfected with a pancreatic gene.

Claim 10. (Currently Amended) The method according to Claim 1 for the prevention or

treatment of a disease ~~going along~~ associated with impaired beta-cell function.

Claim 11. (Currently Amended) The method according to claim 10 for the treatment of beta-cell degeneration in patients suffering from diabetes type I, latent autoimmune diabetes in adults (LADA) ~~LADA~~, or progressed diabetes type II.

Claim 12. (Previously Presented) The method according to claim 10 for the prevention of beta-cell degeneration in patients at risk to develop beta-cell degeneration.

Claim 13. (Withdrawn) The method according to Claim 1, wherein a neurturin product or a modulator/effector thereof that influences the expression level or function of a neurturin product is administered to a patient

(i) as a pharmaceutical composition,

(ii) via implantation of neurturin protein product expressing cells, and/or

(iii) via gene therapy.

Claim 14. (Withdrawn) The method according to claim 13, wherein the neurturin product or modulator/effector thereof is administered in combination with another pharmaceutical composition useful to treat beta-cell degeneration, for example but not limited to hormones, growth factors, or immune modulating agents.

Claim 15. (Previously Presented) The method according to Claim 1, wherein the neurturin product is a protein including purified natural, synthetic or recombinant neurturin or a variant thereof.

Claim 16. (Previously Presented) The method according to claim 15 wherein the variant comprises an insertion, substitution, deletion or a chemically modified derivative.

Claim 17. (Currently Amended) The method according to claim 15, wherein the neurturin product is a protein or a peptide which comprises 70% sequence homology ~~is substantially homologous~~ to

(a) the human neurturin precursor protein having the amino acid sequence set forth in SEQ ID NO: 7; or ~~published as GenBank Accession Number NP_004549 and/or~~

(b) the mature neurturin protein product that results from the cleavage of the human

neurturin protein precursor having the amino acid sequence set forth in SEQ ID NO: 7 ~~published as GenBank Accession number NP_004549~~.

Claim 18. (Withdrawn, Currently Amended) The method according to Claim 1, wherein the neurturin product is encoded by a polynucleotide comprising the sequence set forth in SEQ ID NO: 6 ~~a nucleic acid which encodes a neurturin protein product~~.

Claim 19. (Currently Amended) The method according to Claim 1, wherein the neurturin product is a neuturin homodimer or a heterodimer of a neurturin protein product and another protein, wherein the other protein is a member of the GDNF-family ~~or a nucleic acid coding therefor~~.

Claim 20. (Previously Presented) The method according to Claim 1, wherein the neurturin product is of mammalian origin.

Claim 21. (Previously Presented) The method according to Claim 1, wherein the differentiation of progenitor cells in vitro comprises

a) optionally activating one or more pancreatic genes in progenitor cells,

b) optionally aggregating said cells to form embryoid bodies,

c) cultivating said cells or embryoid bodies in specific differentiation media containing neurturin protein product and

d) identifying and optionally selecting insulin-producing cells.

Claim 22. (Previously Presented) The method according to claim 21, wherein the neurturin-treated insulin producing cells are

(i) capable of a response to glucose and/or

(ii) capable of expressing glucagon.

Claim 23. (Previously Presented) The method according to Claim 21, wherein the neurturin-treated insulin producing cells are capable of normalizing blood glucose levels after transplantation into mice.

Claim 24. (Withdrawn) The method according to Claim 1, wherein an effective amount of in vitro neurturin-treated cells are transplanted to a patient in need.

Claim 25. (Withdrawn) The method according to Claim 1, comprising a stimulation of neurturin expression, wherein cells from a patient in need that have been modified to produce and secrete a neurturin protein product in vitro are re-implanted into the patient and/or wherein cells of a patient in need are modified to produce and secrete a neurturin protein product in vivo.

Claim 26. (Currently Amended) The method according to Claim 1, comprising contacting said progenitor cells ~~in combination~~ with said neurturin product and at least one ~~further other~~ pharmaceutical agent.

Claim 27. (Currently Amended) The method according to claim 26, wherein the ~~in combination with at least one further~~ pharmaceutical agent is suitable for the treatment or prevention of pancreatic diseases and/or obesity and/or metabolic syndrome.

Claim 28. (Currently Amended) The method according to claim 27, wherein the ~~in combination with at least one further~~ pharmaceutical agent is suitable for stimulating and/or inducing the differentiation of insulin producing cells from progenitor cells.

Claim 29. (Currently Amended) The method according to claim 26, wherein the ~~in combination with at least one further~~ pharmaceutical agent ~~which~~ has an immunosuppressive activity.

Claim 30. (Original) A method for differentiating or regenerating cells into functional pancreatic cells, the method comprising: (a) cultivating cells capable of being differentiated or regenerated into pancreatic cells in the presence of an effective amount of neurturin in vitro (b) allowing the cells to develop, to differentiate and/or to regenerate at least one pancreatic function; and (c) optionally preparing an effective amount of the differentiated or regenerated pancreatic cells for transplantation into a patient in need thereof.

Claim 31. (Previously Presented) The method according to claim 30, wherein the patient in need is a human individual.

Claim 32. (Previously Presented) The method according to claim 30, wherein the patient in need has (a)functionally impaired, (b) reduced numbers and/or (c) functionally impaired and reduced numbers of pancreatic cells.

Claim 33. (Previously Presented) The method according to Claim 30, wherein said patient in need is a type I diabetic patient or type II diabetic patient or a patient suffering from latent autoimmune diabetes in adults (LADA) ~~LADA patient~~.

Claim 34. (Previously Presented) The method according to Claim 30, wherein the pancreatic cells are insulin-producing cells.

Claim 35. (Previously Presented) The method according to Claim 30, wherein the pancreatic cells are beta-cells of the pancreatic islets.

Claim 36. (Previously Presented) The method according to Claim 30, wherein the cells in step (a) are selected from embryonic stem cells, adult stem cells, or somatic stem cells.

Claim 37. (Currently Amended) The method according to Claim 31, wherein the cells in step (a) are of mammalian origin, ~~preferably human origin,~~ with the proviso that the use of human embryos is excluded.

Claim 38. (Previously Presented) The method according to Claim 30, wherein neurturin is added at concentrations between 1 ng/ml and 500 ng/ml.

Claim 39. (Previously Presented) The method according to Claim 30, wherein the at least one pancreatic function is selected from insulin production in response to glucose and expression of glucagon.

Claim 40. (Original) A method for differentiating or regenerating cells into functional pancreatic cells, the method comprising: preparing an effective amount of a neurturin product or of cells capable of expressing a neurturin product for administration to a patient in need thereof.

Claim 41. (Previously Presented) The method according to claim 40, wherein the neurturin

product is a neurturin protein product.

Claim 42. (Withdrawn) The method according to claim 40, wherein the neurturin product is a nucleic acid encoding a neurturin protein product.

Claim 43. (Previously Presented) The method according to claim 40, wherein cells have been modified to produce and secrete a neurturin protein product and are prepared for transplantation into a suitable location in the patient.

Claim 44. (Withdrawn) A cell preparation comprising neurturin-treated functional pancreatic cells obtainable by the method of Claim 30.

Claim 45. (Withdrawn) A cell preparation comprising a neurturin product expressing cells obtainable by the method of Claim 30.

Claim 46. (Withdrawn) The preparation of claim 44, which is a pharmaceutical composition.

Claim 47. (Withdrawn) The preparation of Claim 44 for the treatment or prevention of pancreatic diseases, particularly diabetes.

Claim 48. (Withdrawn) The preparation of Claim 44 for administration by transplantation or for use in a medical device.

Claim 49. (Withdrawn) The preparation of Claim 44, which contains pharmaceutically acceptable carriers, diluents, and/or additives.

Claim 50. (Withdrawn) The preparation of Claim 44, which is a diagnostic composition.

Claim 51. (Withdrawn) The preparation of Claim 44, which is a therapeutic composition.

Claim 52. (Withdrawn) The preparation of Claim 44 for the manufacture of an

agent for the regeneration of pancreatic tissues or cells, particularly pancreatic beta cells.

Claim 53. (Withdrawn) The preparation of Claim 44 for application in vivo.

Claim 54. (Withdrawn) The preparation of Claim 44 for application in vitro.

Claim 55. (Withdrawn) A method for identifying and/or characterizing compounds capable of modulating the differentiation or regeneration of cells into functional pancreatic, particularly insulin-producing cells comprising:

contacting a compound to be tested with cells under conditions wherein the cells are capable of being differentiated or regenerated into functional pancreatic cells in the presence of neurturin and

determining the effect of the compound on the differentiation process.

Claim 56. (Withdrawn) The method of claim 55 comprising transfecting the cells with a DNA construct containing a reporter gene under regulatory control of a gene involved in beta-cell differentiation, contacting said transfected cells with a compound to be tested and determining the activity of the reporter gene.

Claim 57. (Withdrawn) The method of claim 55 comprising contacting embryoid bodies which are cultivated in a differentiation medium enhancing beta-cell differentiation with a compound to be tested and determining differentiation into insulin-producing cells.

Claim 58. (Withdrawn) A method for identifying and/or characterizing compounds capable of modulating the differentiation or regeneration of cells into functional pancreatic, particularly insulin-producing cells comprising:

contacting a compound to be tested with cells under conditions wherein the cells are capable of being differentiated or regenerated into functional pancreatic cells and determining the effect of the compound on the expression of neurturin.

Claim 59. (Withdrawn) Use of a preparation of neurturin expressing cells for the treatment and prevention of diabetes.

Claim 60. (Withdrawn) The use of claim 59 for inducing the regeneration of

pancreatic cells.

Claim 61. (Withdrawn) The use of claim 60, wherein pancreatic cells are beta-cells of the islets.

Claim 62. (Withdrawn) Use of a preparation of neurturin-treated cells for the treatment and/or prevention of diabetes.

Claim 63. (Withdrawn) The use of claim 62 wherein the cells are differentiated progenitor cells capable of insulin production.

Claim 64. (Previously Presented) The method according to Claim 4, wherein the stem cells are of human origin, with the proviso that the use of human embryos is excluded.

Claim 65. (Previously Presented) The method according to Claim 5, wherein the progenitor cells have been transfected with a Pax4 gene.

Claim 66. (Previously Presented) The method according to claim 8, wherein the insulin producing cells are of human origin.

Claim 67. (Withdrawn) The method according to Claim 13, wherein the pharmaceutical composition is administered enterally, parenterally or topically directly to the pancreas.

Claim 68. (Previously Presented) The method according to Claim 16, wherein the variant is a hybrid of neurturin or a TGF-beta protein from the GDNF-family.

Claim 69. (Previously Presented) The method according to Claim 38, wherein neurturin is added at concentrations between 10 and 100 ng/ml.

Claim 70. (Previously Presented) The method according to Claim 38, wherein neurturin is added at a concentration of 50 ng/ml.

Claim 71. (Previously Presented) The method according to Claim 9, wherein the insulin producing cells have been transfected with a Pax4 gene.

Claim 72. (Previously Presented) The method according to Claim 12, wherein the patient at risk to develop beta-cell degeneration is a patient suffering from diabetes type I, a patient suffering from diabetes type II, or a patient suffering from latent autoimmune diabetes in adults (LADA) ~~LADA~~ in early stages.

Claim 73. (New) The method according to claim 15, wherein the neurturin product is a protein or a peptide which comprises 90% sequence homology to

(a) the human neurturin precursor protein having the amino acid sequence set forth in SEQ ID NO: 7; or

(b) the mature neurturin protein product that results from the cleavage of the human neurturin protein precursor having the amino acid sequence set forth in SEQ ID NO: 7.

Claim 74. (New) The method according to claim 15, wherein the neurturin product is a protein or a peptide which comprises 95% sequence homology to

(a) the human neurturin precursor protein having the amino acid sequence set forth in SEQ ID NO: 7; or

(b) the mature neurturin protein product that results from the cleavage of the human neurturin protein precursor having the amino acid sequence set forth in SEQ ID NO: 7.